

Chapter 2 **Change in Project Scope**

The California Department of Transportation (Caltrans) and Los Angeles County Metropolitan Transportation Authority (Metro) propose to implement High Occupancy Toll (HOT) Lanes, one in the northbound and one in the southbound direction, in order to accelerate the construction of proposed carpool lanes on the I-5 from SR-14 to Parker Road in the North County of Los Angeles. The length of the project is 13.5 miles.

The following is a brief description of the proposed I-5 HOT Lane project:

The existing number of general-purpose lanes (four in each direction) and truck lanes are assumed. The proposed project includes the addition of one HOT (toll) lane in each direction along the I-5 Freeway between SR 14 and Parker Road. HOT lanes are proposed to replace the HOV lanes. All the other project components discussed in Chapter 1 would remain the same. Ingress/egress points would be provided along the corridor to access the HOT lanes.

The proposed change is consistent with the following objectives of the I-5 HOV and Truck Lanes project:

- ☒ Reduce delays to vehicles caused by slower-moving trucks through the hilly southern portion of this segment of I-5;
- ☒ Improve operational and safety design features to facilitate the movement of people, freight, and goods on the project segment; and
- ☒ Reduce existing forecast traffic congestion on the project segment of I-5 to accommodate planned growth within the study area.

In addition to these objectives, the proposed HOT Lanes are expected to result in improved throughput during peak hours due to more efficient use of both the mixed flow and HOT lanes by providing single occupant vehicles a choice to use the HOT lanes.

2.1 Reason for the Change

As documented in the Final Environmental Impact Report/ Finding of No Significant Impact (EIR/FONSI) dated September 2009, I-5 is experiencing greater automobile and truck congestion as a result of population growth in north Los Angeles County and goods movement into and out of the Ports of Los Angeles and Long Beach. An

increase in freeway traffic volumes in the future, as predicted by the SCAG model, will continue to cause substantial delays.

I-5 HOV/Truck Lanes Project is part of a multi-phase project identified in Metro's Long Range Transportation Plan (LRTP) as I-5 North Capacity Enhancements, which includes adding new lanes, such as truck and/or carpool lanes, to relieve congestion between SR-14 and Kern County Line. The estimated cost of the entire project is approximately \$5 billion. Because of its high cost, the project is broken down by phases for implementation:

- Phase 1 includes the new truck lanes currently in construction.
- Phase 2a provides for new carpool lanes (one in each direction) from SR-14 to Parker Rd. However funds designated for Phase 2a will not be sufficient to develop and construct the full scope as approved in the environmental document. Furthermore, the funds allocated will only be available a portion at a time over the next 30 years. This will require the project to be built incrementally as funds become available.
- Phase 2b is intended to extend capacity improvements from Parker Rd further north towards the Kern County Line. At this time there is no funding for Phase 2b. To initiate Phase 2b new funding sources have to be first identified.

In order to construct the full scope of this element earlier than planned, new funding sources are required to cover the funding shortfall. Tolling the proposed carpool lane on I-5 to pay for the funding shortfall is being proposed. This new source of revenue would avoid a 30 year delay to finance and build 13.5 miles of carpool lanes through the Santa Clarita area 2018. The scope of the proposed HOT lane project is described in the sections below.

2.2 Proposed Project Scope

The I-5 HOT Lane project is one of the six elements of the Accelerated Regional Transportation Improvements (ARTI) Package. The six elements are identified below:

Element	Project Location	Project Scope	Length (miles)
A	I-5 North Capacity Enhancements from SR-14 to Parker Road	Add one carpool lane in each direction from SR-14 to Parker Road in Santa Clarita	13.5
B	I-5 North Pavement Rehabilitation	Repaving general purposes lanes from SR-14 to Parker Road in Santa Clarita	13.5
C	SR-71 Gap Closure from I-10 to Mission Boulevard	Add one carpool and one general purpose lanes in each direction from I-10 to Mission Boulevard in Pomona	1.7
D	SR-71 Gap Project, Mission Boulevard to Rio Rancho Road	Add one carpool and one general purpose lanes in each direction from Mission to Rio Rancho Road in Pomona	2.6
E	Soundwall Package 10	Construct soundwalls at various locations along I-210 in Arcadia and Pasadena	3.8
F	Soundwall Package 11	Construct soundwalls at various locations along SR-170 between SR-134 and Sherman Way, and I-405 in the vicinity of Stagg Street in Los Angeles	5.5

2.2.1 Tolls

A toll collection system would be developed and implemented during final design of the project. The price would vary during the course of the day. Toll rates are anticipated to be from \$0.25 to \$1.40 per mile, similar to Metro’s ExpressLanes tolls on the I-10 and I-110. Consistent with current Metro toll policy used on the I-10 ExpressLanes, vehicles with three or more occupants would not pay a toll, vehicles with two occupants would pay a toll during peak periods only, and vehicles with one occupant would pay a toll at all times.

Tolls would be continually adjusted according to traffic conditions to maintain a free-flowing level of traffic using congestion pricing. During peak periods, when there is more traffic, the toll is higher to discourage new solo drivers from entering and to maintain a minimum speed of 45 mph. During off-peak periods, the toll is lower. By changing the toll in response to the level of demand, the HOT lane keeps traffic flowing smoothly. The toll price would be locked in at the time of entry into the HOT lane.

If the lanes become too full and the tolls have reached the maximum amount, the message displayed on the overhead sign would change to “HOV ONLY”. This message would inform potential toll paying drivers that they would not be allowed to enter the HOT lane until the speeds climb back up. If you are a toll paying driver already using the HOT lane when the sign message changes to “HOV ONLY”, you would be able to complete your trip.

The Business Rules in the Tolling Policy would also be the same as the current Board approved Business Rules for the ExpressLanes Project:

- All vehicles are required to have a transponder;
- Trucks (other than 2 axle) are not allowed on the HOT lane facility;
- Motorcycles and buses (both public and privately operated) travel toll-free; and
- Emergency vehicles travel toll-free when responding to incidents.

2.2.2 Tolling Points

Locations of the HOT Lane signs and electronic tolling equipment would be determined during final design. The possible locations of the Toll Gantries are as follows:

- The northbound I-5, in the vicinity of the SR 14 interchange
- The northbound I-5 in the vicinity of the Pico Canyon Road/Lyons Avenue interchange
- The northbound I-5 from in the vicinity of the Valencia Boulevard interchange
- The northbound I-5 in the vicinity of the Magic Mountain Parkway interchange
- The northbound I-5 in the vicinity of the SR 126 interchange
- The southbound I-5 just south of Parker Road
- The southbound I-5 in the vicinity of the SR 126 interchange
- The southbound I-5 in the vicinity of the Rye Canyon Road interchange
- The southbound I-5 in the vicinity of the Magic Mountain Parkway interchange
- The southbound I-5 in the vicinity of the Valencia Boulevard interchange
- The southbound I-5 in the vicinity of the Pico Canyon Road/Lyons Avenue interchange
- The southbound I-5 in the vicinity of the Calgrove Boulevard interchange

2.2.3 Entrance and Exit Points

Preliminary plans provide for entrance and exit points to and from the HOT lanes. The number and location of ingress/egress points, as shown on the following table, are for analysis purposes only. The final number and location of ingress/egress points would be determined during final design. The preliminary locations are illustrated in Figure 2.1.

Table 2.A HOT Lane Ingress/Egress Points

Northbound		
Location	PM	Description
1	47.46	Approx. 1900 ft South of Gavin Canyon
2	50.13	At Pico / Lyons Ave.
3	52.18	At Valencia Blvd.
4	53.39	At Magic Mnt. Pkwy.
5	56.43	At Hasley Caynon Rd.
6	57.63	Approx. 4500 ft North of HasleyCanyon Rd.
Southbound		
Location	PM	Description
1	46.64	Approx. 5000 ft North of I-5/SR-14 Interchange
2	49.14	At Calgrove Blvd.
3	50.71	At Pico / Lyons Ave.
4	52.70	At Valencia Blvd.
5	53.77	At Magic Mnt. Pkwy.
6	56.91	At Hasley Canyon Rd.
7	58.00	Approx. 4500 ft North of HasleyCanyon Rd.

Northbound

There would be five ingress points and six egress points in the northbound direction, beginning with the transition from the HOV lane just north of SR-14 and continuing to the final egress point just south of Parker Road. The existing HOV lane would transition into HOT lane just north of SR-14. The first entrance point would be just north of the SR-14 interchange. Vehicles without a transponder would be required to exit at this location, and vehicles with a transponder would be permitted to enter. Vehicles entering here would be able to exit the HOT lanes at four intermediate points and one final exit point to access McBean Parkway / Stevenson Ranch Parkway and Valencia Boulevard, Magic Mountain Parkway, Henry Mayo Drive / SR-126 and Hasley Canyon Road, or two access points located south of Parker Road, at which point the HOT lane would transition into a mixed flow lane.

The second northbound ingress/egress would be located at Lyons Avenue / Pico Canyon Road. Drivers exiting here would be able to transition to the McBean Parkway / Stevenson Ranch Parkway and Valencia Boulevard exits. Drivers entering here could next exit the HOT lane at Valencia Boulevard to access Magic Mountain Parkway.

Figure 2.1 HOT Lane Ingress/Egress Locations



The third northbound ingress/egress would be located at Valencia Boulevard and would provide an egress point for drivers wishing to exit at Magic Mountain Parkway. Drivers entering at this location could next exit at Magic Mountain Parkway to access SR-126 / Henry Mayo Drive and Hasley Canyon Road or stay in the HOT lane until it transitions into a mixed flow lane just south of Parker Road.

The fourth northbound ingress/egress would be located at Magic Mountain Parkway and would allow enough distance for a transition from the HOT lane to the SR-126 exit ramp. Drivers entering the HOT lane at this location could next exit at Hasley Canyon Road or continue in the HOT lane until it transitions into a mixed flow lane just south of Parker Road.

The fifth northbound ingress/egress would be located at Hasley Canyon Road, meaning that vehicles that enter I-5 from SR-126 could access the HOT lane for a limited time prior to the HOT lane transition into a mixed flow lane just south of Parker Road. Drivers could exit the HOT lane at this location to access Parker Road or could continue to the end of the HOT lane and transition into a mixed flow lane.

The final northbound egress location would be south of Parker Road. All vehicles, both HOT and HOV, would exit the facility at this point as the HOT lane transitions into a mixed flow lane.

Southbound

There would be seven ingress points and six egress points in the southbound direction, beginning just south of Parker Road and transitioning to the HOV lane just north of SR-14.

The first entrance point would be just south of Parker Road. Drivers entering here would be able to exit the HOT lane at five intermediate ingress/egress points and one final exit point to access The Old Road / Henry Mayo Drive / SR-126 and Magic Mountain Parkway, Valencia Boulevard, McBean Parkway/Stevenson Ranch Parkway and Lyons Avenue / Pico Canyon Road, Calgrove Boulevard, SR-14, or to exit the HOT lane just north of SR-14 prior to the transition to the HOV lane at SR-14. Single occupant vehicles would have transition length to safely merge to the mixed flow lanes prior to the start of the HOV lane.

The second southbound ingress/egress would be located at Hasley Canyon Road. Vehicles exiting here would be able to access SR-126, The Old Road, and Henry Mayo Drive as well as Magic Mountain Parkway. Vehicles entering here would next

have the option to exit at Magic Mountain Parkway in order to access Valencia Boulevard.

The third southbound ingress/egress would be at Magic Mountain Parkway, far enough south of SR-126 that vehicles entering I-5 South from SR-126 would have time to safely merge to the HOT lane access point. Drivers exiting here could transition to the main line to access the Valencia Boulevard off-ramp. Drivers entering here would be able to exit the HOT lane at Valencia Boulevard in order to access Stevenson Ranch Parkway / McBean Parkway, Pico Canyon Road / Lyons Avenue and other exits further south.

The fourth southbound ingress/egress would be located at Valencia Boulevard. Drivers exiting here could access McBean Parkway / Stevenson Ranch Parkway and Lyons Avenue / Pico Canyon Road, as well as other exits further south. Drivers entering here could next exit at the Lyons Avenue / Pico Canyon Road ingress/egress location or continue in the HOT lane.

The fifth southbound ingress/egress would be located at Lyons Avenue / Pico Canyon Road. Drivers entering here would be able to exit at the Calgrove Boulevard egress or at the southern limit of the HOT lane and would be able to merge into the mixed flow lane, or continue in the HOV lane if there are two or more occupants.

The sixth southbound ingress/egress would be located at Calgrove Boulevard, allowing drivers the opportunity to exit the HOT lane, transition to the main line and access SR-14. Drivers entering here would either exit at the next ingress/egress point to exit the HOT lane, or vehicles with two or more occupants could continue in the HOV lane.

The final southbound ingress/egress is located just north of SR-14. Vehicles could continue in or enter the HOV lane here if they carry two or more occupants. Single-occupant vehicles must exit the HOT lane at this location.

2.2.4 Operations

The I-5 HOT lanes would operate similar to the I-10 and I-110 ExpressLanes. Solo drivers with a transponder would have the choice to pay a toll to use the I-5 HOT lanes. Carpools and vanpools meeting the minimum occupancy requirements, as well as motorcycles, can use the I-5 HOT lane free with a transponder. Prior to starting a trip, the driver would set the transponder to indicate the number of people in the

vehicle. As the driver approaches the I-5 HOT lane, two toll amounts would be displayed on an electronic overhead sign: (1) the current toll from the entrance to the next major exit, and (2) the current toll from this entrance to the end of the I-5 HOT lane. The toll rate would vary with the level of congestion in the mixed flow lanes. The toll per mile would increase as more vehicles enter the HOT lane (due to congestion on mixed flow lanes) to manage demand in order to ensure a congestion-free operation.

When the vehicle enters/exits the I-5 HOT lane, the overhead antenna would read the transponder and the amount of the toll would be deducted from the user's account. The tolls charged would be based on the distance travelled in the HOT lane and the level of congestion in adjacent mixed flow lanes.

Similar to the Metro ExpressLanes, enforcement would be effected through a combination of visual monitoring by California Highway Patrol (CHP) vehicles, photo enforcement and the transponder. When traveling on the I-5 HOT lane, a beacon light would indicate the transponder occupancy setting. The beacon light is visible to the CHP who would perform a visual verification of the vehicle occupancy and cite non-compliant drivers. If a driver uses the HOT lane without a valid transponder, a photo of the vehicle license plate would be taken and the registered owner of the vehicle would be issued a toll evasion violation notice.

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